Explorer Post 632 Inflation Checklist

Parts lists Inflation

2 Balloons (1 is spare)
Helium, 2 tanks (K bottles)
Helium truck rack and rope
Pressure Regulator
4 – big Hands
Latex gloves (6 pairs)
Cotton gloves (6 pairs)
hose and gas feed adaptor with valve
3 hose clamps (1 for balloon and two for the hose)
tarp
parachute
big wrench (for regulator, gas feed)
adjustable wrenches
pliers (hose clamp)
fish-scale
digital scale (9V)
tape measure
Water container (counter balance for balloon lift determination)
String (for tying off balloon) 100 lb test Dacron
scissors
knife
duct tape
water (2 gal)
bucket to hold water
small balloons for weather check
wooden spreaders for parachute

Balloon Inflation

_____ Attach regulator to He bottle and attach hose,
_____ Prepare water as balance, determine required mass from below
_____ Lay out tarp and balloon so that it is close to the other end of the hose
_____ Attach L-shaped fitting w/fish scale to balloon secure with hose clamp
_____ Attach weighted water container
_____ Unwrap balloon and layout on tarp, check for kinks/tears
_____ Stretch out balloon on tarp, Start filling balloon slowly at first , and continue raising inflation rate until lift matches water weight.
_____ Use Wooden paddles (Big Han[d]s) to stabilize balloon from wind drift.
_____ Once inflated, (balloon lift is equal to weight of water container) remove balloon from inflation assembly, fold over balloon nozzle, tie off with string (leave enough string to attach payload), wrap with duct tape.
_____ Prepare and launch small helium balloon for wind assessment
_____ Attach payloads.
_____ Arrange payloads such that the line between all elements has no slack.
_____ Release balloon.

Balloon Lift Worksheet

	110 kft	105 kft
Total Balloon Lift	4070 grams	5290 grams
- Balloon Mass	1500	1500
Net Lift{1} to reach altitude	2570	3790

Parachute	200	200
Payload 1	1256	+_____
Payload W	250	+_____
Payload 2	995	+_____
1 kg extra lift	1200 (1000 ft/min)	+ 1200
Net Lift {2}	3790 (~105 kft)	=_____
- gas fitting+fish scale	315	- 315
Water+ Container	3485	=_____